ABSTRACT

An object is to provide a microcomputer, electronic instrument and debugging system which can realize an on-chip debugging function through a reduced size of instruction code or a reduced circuit scale. A main monitor section (16) converts a debugging command into a primitive command. A mini monitor section (14) transfers data to and from the main monitor section (16) to execute a primitive command determined based on the receive data. The primitive commands include go, write and read commands. A control register having its address allocated on a memory map in the debugging mode is provided together with a mini monitor RAM. The mini monitor section (14) serving as a slave is connected to the main monitor section (16) serving as a master through a half-duplex bidirectional communication line so that transfer data can be fixed-length. The receive data includes a command identifying data. A mini monitor program has been stored in a ROM. The mini monitor section (14) and main monitor section (16) use a clock in common to generate a sampling clock while transferring data in the start-stop synchronization.